

WHAT IS CLAIMED IS:

1. A dynamic pressure probe for a combustor comprising a holder body having a pressure sensing passage; a pressure sensor and a pressure chamber located in a housing portion arranged substantially perpendicularly to said pressure sensing passage; and wherein said pressure chamber communicates with said pressure sensing passage via a relatively small aperture in a wall separating said pressure chamber from said pressure sensing passage.

2. The probe of claim 1 wherein said housing portion is shaped to receive a sleeve surrounding at least a portion of said pressure sensor.

3. The probe of claim 2 wherein an inner end of said sleeve defines a peripheral wall of said pressure chamber.

4. The probe of claim 2 wherein said sleeve engages said wall and is sealed relative thereto.

5. The probe of claim 1 wherein said pressure sensor includes a diaphragm exposed to said pressure chamber.

6. The probe of claim 1 wherein said holder body is formed with a compressor discharge air passage adapted for communication with a radial space in the combustor supplied with compressor discharge air.

7. The probe of claim 1 wherein a waveguide is attached to said holder body at a rearward end thereof,

said waveguide having a bore in communication and axial alignment with said pressure sensing passage.

8. The probe of claim 7 wherein said pressure sensing passage and said bore have substantially identical inner diameters.

9. The probe of claim 3 wherein said pressure chamber is sealed by means of O-rings arranged within grooves formed in respective inner and outer edges of said sleeve.

10. A dynamic pressure probe comprising a holder body having a first passage therein adapted to receive a pressure signal, a pressure sensor including at least a pressure sensing portion located within a sleeve seated within a pressure sensor housing portion, said sleeve engaged with a wall of said housing portion; said pressure sensor including a diaphragm having one face exposed to a pressure chamber within said sleeve between said pressure sensor and said wall; and wherein an aperture in said wall of said housing connects said pressure chamber to said first passage.

11. The probe of claim 10 wherein opposite ends of said sleeve are provided with O-ring seals for sealing said pressure chamber relative to said housing portion.

12. The probe of claim 10 wherein said sleeve includes a first diameter region in which the sensing portion of said pressure sensor is located, and a second larger diameter region in which said diaphragm is located.

13. The probe of claim 10 wherein said pressure chamber has an acoustic resonance frequency greater than a corresponding frequency of the pressure signal.

14. The probe of claim 10 wherein said first passage is substantially perpendicular to said sleeve and said pressure chamber.

15. The probe of claim 10 wherein a second passage is formed in said holder body, adapted to receive extracted compressor discharge air.

16. The probe of claim 15 wherein an inlet to said first passage is axially spaced from an inlet to said second passage.

17. The probe of claim 10 wherein said first passage continues axially beyond said aperture in a flow direction to an acoustic damping coil.

18. The probe of claim 17 wherein said second passage is adapted to supply compressor discharge air to an opposite end of said acoustic damping coil.

19. The probe of claim 10 wherein said sensor includes a radial flange engaged with an outer edge of said sleeve.

20. The probe of claim 19 wherein said pressure sensing portion of said sensor is secured within said sleeve by means of a flange connector in compressive engagement with said radial flange.

21. A method of obtaining a dynamic pressure signal from a combustor comprising:

a) supplying a dynamic pressure signal from the combustor through a first passage, said first passage exposed to a mutually perpendicularly arranged sensor diaphragm remote from said combustor;

b) transmitting said pressure signal beyond said sensor diaphragm to a signal damping mechanism; and

c) supplying compressor discharge air to said signal damping mechanism to remove any condensation therein.

22. The method of claim 21 wherein step a) is carried out by attaching a probe holder to an outer wall of the combustor, with a forward tip of said probe holder having an inlet to said first passage, projecting through a combustor liner spaced radially inwardly of said outer wall.

23. The method of claim 22 wherein step c) is carried out by providing a second passage in said probe holder with an inlet exposed to compressor discharge air in a radial space between said outer wall and said combustor liner.